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REPORT UPON THE EPIDEMIC OCCURRING AT "MAPLEWOOD YOUNG LADIES' INSTITUTE," PITTSFIELD, MASS., IN JULY AND AUGUST, 1864.

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[Concluded from page 163.]

Unfortunately, we have too many experiences in our own country, confirmatory of the conclusions to which the foregoing facts so strongly tend. The National Hotel disease, which occurred at Washington, at the time of Mr. Buchanan's inauguration as President, in 1857, is fresh in the memory of many. A large number of guests of that popular hotel were seized, almost simultaneously, with a disease in some respects peculiar, but essentially an intestinal or enteric fever. Poison was suspected, but a rigorous investigation brought the committee appointed for the purpose, and all the medical attendants upon cases, to the belief that the disease was due to sewer gases. The drain of the privy was found to be obstructed; and the foul emanations were driven back, poisoning many who inhaled them. On removing the obstructions, the effluvia and the cause of the disease disappeared.

In such emanations, the gases most familiar to chemists and most offensive to the senses, are sulphuretted and carburetted hydrogen; but, mingled with these, and sometimes independent of them, are various other substances less defined and appreciable—matters in the process of fermentation and decay, and probably containing living germs of low organization. These obscured elements, substances perhaps destitute of odor, enter the system sometimes unperceived, mingle with the blood, and, by their presence there, induce changes in the fluids and make impressions upon the solids which create the phenomena of disease. These subtle elements may be produced without the more perceptible and offensive gases; and hence the absence of odors may not prove the absence of poisonous emanations. Still, offensive odors are usually present.

Not only are these poisonous elements taken into the system in the air respired, but they are quite as effectual when taken into the stomach, mingled with ingested water. The cases are numerous where water, contaminated with fæcal and drainage matter, has been the cause of typhoid fever and allied diseases. The following are some of them:—

Richmond Terrace, Clifton, is a crescent composed of thirty-four houses. In 1847, the inhabitants of thirteen of these houses drew their drinking water from a well at the end of the crescent. The remaining houses were supplied with water from another source. At the end of September the water of the well gave evidence to the taste and smell of being tainted with sewerage. Early in October typhoid fever broke out, nearly at once, in all the thirteen houses in which the tainted water had been drunk, but did not make its appearance in any of the other houses. In almost every one of the thirteen houses two or three persons were ill, and in some a much larger number. The houses in which the fever broke out were far apart in the terrace, and there was little or no intercourse between their inmates—the water from the well being the sole connecting link.

The following is a case even more conclusive, if possible, than the foregoing, in demonstrating the production of typhoid fever from foul matters—from a defective drain soaking through a porous soil into a well, and thus contaminating the drinking water. This case occurred in Williamstown, Mass.; and as the facts have never been presented in the literature of the profession, a somewhat detailed statement will be given. Besides having had oral accounts from various entirely reliable sources, the committee have received full and separate written statements from three parties: one, a very intelligent physician who attended many of the cases; and the other two, sufferers from the disease—one now an advanced student of medicine, and the other of law. One of the committee has also visited the place and examined the premises concerned.

From the statements it appears that, about the middle of June, 1860, typhoid fever broke out in a boarding house. The whole number sitting at the table was from thirty to thirty-five persons—mostly students of Williams' College. In the course of two weeks the greater portion of these boarders were affected—twenty or more of the students falling sick.

Dr. S. Duncan, one of the physicians who attended the cases and made the investigation, says, in his communication:—

"On the 18th of June, 1860, I was called to visit, professionally, one of the boarders, and found him suffering with the initiatory symptoms of typhoid fever. At this time there was, to my knowledge, but one case of fever in town. The patient was removed from his lodgings in the College to this boarding house, for the sake of greater convenience in care and treatment, and continued to use the water from the well on the premises for at least ten days from the first visit.

"This patient was under treatment for about six weeks; and though having, at times, unfavorable symptoms, he at length recovered. About the last of June the cases began to multiply rapidly among the boarders; and, as the disease had not made its appearance in the town, the conviction was forced upon my own mind that its origin was local, and that a solution of the problem might be found by an examination of the premises. The building, cooking apparatus, and, in fact, the whole house, was minutely inspected, without discovering any cause for the sudden development of the disease; but out of doors was found what was thought, at the time, to be a satisfactory explanation of the phenomena.

"A drain, which received all the refuse of the house, was found to be choked near its exit into another drain, which conveyed surface water from a highly cultivated field, and which also ran near the well. The season was uncommonly wet, and the earth in the immediate neighborhood of the well was so completely saturated with organic matter that it oozed through the ground and stood in pools of putrescence on the surface. Nearly two thirds of the inmates sickened; and though the cases differed in severity and duration, yet all presented the unmistakable phenomena of typhoid fever. There were no deaths! Among the boarders were a number who did not drink the water *at dinner*, and of these it was remarked that not one sickened! The family of one of the professors of the College, living in an adjoining house and using water from this well, sickened like the others; the professor, who drank no water at dinner, alone escaped. I am tolerably familiar with typhoid fever, and have never had a doubt that the disease appearing at that house, and which was associated with drinking that water, was typhoid fever. All that drank the water unboiled had the disease; all who avoided it in this state, escaped. It appeared that the action of heat rendered the water innocuous, either by volatilizing, coagulating, or otherwise changing the organic matter."

Though several of the students, after becoming ill, went to their homes and suffered their sickness, no case is mentioned of the disease having spread from them to others.

One of the other gentlemen, in his communication, says:—

"We thought the illness was from the water—

"(1) Because of the drain so emptying that the foul water ran directly into the well from which we drank.

"(2) Because, of some thirty or thirty-five boarders, all at the same table, those who drank tea and coffee, exclusively, three times a day (and there were several such), escaped all symptoms; as well as those who took ale for dinner, and tea and coffee at the morning and the evening meal.

"(3) It could not have arisen from impure air, study, or epidemic influence, as none in the town were affected save parties who used the water; and many who were sick were among the *laziest* of students.

"(4) Those were the subjects of the severest sickness who were, exclusively, drinkers of water. One of the sick, who never used any other drink, was confined eight weeks, and was unable to fill his appointment on commencement day.

"Another, who drank water moderately, and only at dinner, had the disease in a much milder form, and was confined a very much shorter time."

This gentleman, the writer of the account, was seized on the 25th of June, and he says:—

"At, or within a day or two previous to and after, my illness, several of the boarders were seized with similar symptoms and sent home."

From these dates it appears that the cases continued to occur from near the time of the attack of the first, until all were affected. Some resisted the influence of the water longer than others, but all were taken within a period of ten days. The water, when carefully noticed, was found to taste and smell of the sewerage; though when served upon the table with ice, these qualities were not perceived.

Although this poison is sometimes conveyed to the system through the medium of drinking-waters, yet in most cases it is taken through the air. Says Dr. Murchison:—"Many instances might be cited where, although the water supply was the same to all, only those persons exposed to sewer emanations have been attacked."

The intimate connection between typhoid fever and night-soil, sewer-emanations, or contaminated drinking-waters, is now so generally recognized by the more enlightened members of the profession, that, so far as they are concerned, some even of these citations might have been omitted; but so much ignorance prevails in the community at large on this subject, that these references to facts and authorities are deemed necessary for the purposes of this report.

Nothing can be more important to the hygienic interests of the community than that it should be distinctly understood that the connection between the causes referred to and the effect—between these forms of filth and fever—is so close and constant, and these causes are so much under control, that, as has been remarked by several recent French writers, "these fevers can, so to speak, be produced or prevented at will."

It is not alleged that the peculiar poison which produces typhoid fever is generated in every form of animal matter undergoing decomposition, or that it is present in every putrid odor.

It is probable that the special poison is produced only under somewhat peculiar circumstances, or when a particular kind of fermentation takes place in these foul matters; and unless the amount of fermenting material is very abundant, and the change rapid, the poisonous matter is carried off in the air as fast as formed, and is farther changed, oxidized and destroyed. Especially is this the case where free ventilation is allowed. But nothing which is the subject of inferential proof seems more certain than that, not unfrequently, such poisons are produced; and when abundant, or pent up, and then conveyed to human lungs or into human stomachs, operating either as essential or predisposing causes, effects such as have been described are produced—typhoid fevers are engendered. No one doubts the existence of a peculiar poison producing agues, or the conditions usually producing such poison; yet it is appreciable by none of the senses, and has been detected by no chemical tests. The proof of its existence is inferential, from the conditions and effects observed; and a knowledge of the existence of a typhoid poison and the conditions of its existence, are arrived at in the same way.

These views of the origin of typhoid fever have been objected to on the ground that, if true, the inhabitants of most European continental cities, and particularly those of Paris, would be continually laboring under an epidemic of the disease, as their *cabinets d'aisance* are so frequently filthy and offensive. It may be proper to repeat, and must be borne in mind, that it is not claimed that all filth of this kind is capable of inducing the disease, but that certain conditions of fæcal and sewerage fermentations have such capability. It should be farther understood that all persons are not equally susceptible to the influence of any poison, and there are various zymotic poisons to the influence of which many persons are not susceptible at all. However exposed, a large portion of the human family are never affected by the poison of scarlet fever; and there are others upon whom the yellow-fever poison, and marsh malaria, will produce little or no effect. There are different degrees of original susceptibility to typhoid poison—age and other less appreciable conditions exerting a decided influence.

Again, poisons slowly introduced and habitually present in the system, often fail to produce their ordinary effects. This fact is the basis of *acclimation*—of becoming accustomed to a malarious or otherwise injurious climate so as to escape its diseases. It is a well-established principle in etiology, that recent residents are much more subject to endemic diseases than the older inhabitants. The Negro race, from being exposed all their lives, and through a series of generations, to the malaria of African jungles or Southern rice-fields, resist influences which would cause those not thus acclimated to speedily succumb. On the same principle, many Germans endure an amount of beer and tobacco that would be destructive to those not having their long training to these indulgences—a training in their own persons and in their ancestors. All are familiar with the tolerance established by habit in the use of opium, arsenic, &c. The principle would admit of indefinite illustration. The Parisians have been accustomed, to a certain extent, to these odors and influences all their lives and through a series of generations. They may have become to this extent acclimated to such an atmosphere. Such is not the case with all—with but few in this country of broad spaces and more cleanly habits. Such, we will venture to say, was not the case with the young ladies attending the Maplewood Institute. Hence their greater susceptibility.

But, notwithstanding this principle of acclimation, typhoid fever is the prevailing fever of Paris and a large portion of the Continent, while it is much less frequent in England, where this kind of cleanliness is more regarded. In Great Britain, where crowding and deficient ventilation, bodily filth and starvation are more prevalent, *typhus*, not typhoid fever abounds.

In view of the state of things at Maplewood, and of these facts and admitted principles of science, what shall we conclude was the cause of the *Maplewood fever* ?

Those who have followed the current of the preceding statements, will be ready to anticipate the conclusion to which the committee have been brought.

They are of the opinion that the disease at Maplewood essentially originated in the state of the privies and drainage of the place; the high temperature and other peculiar atmospheric conditions developing, in the organic materials thus exposed, a peculiar poison, which accumulated in sufficient quantity to pervade the whole premises, and operated a sufficient length of time to produce disease in young and susceptible persons, rendered more than usually impressible, probably, by the protracted heat of the summer and the severity of their labor, and, possibly, by other influences belonging to the season and to their peculiar conditions.

The reason of this opinion will, perhaps, appear more plainly by a review and more minute statement of the facts in the case, and a comparison of these with the other facts and with the etiological principles already adduced.

The morbid influence pervaded every part of the premises where the pupils roomed, but did not manifest itself quite equally in all. It showed rather more of its effects nearest the chief sources of the effluvia.

The following table shows the number of pupils rooming on each floor of each building; the number sick on each floor, just before, at the time, or soon after the close of the school; the number sick with *fever* at the same time; the number of deaths in the building and the number dying away; the percentage of sickness; the percentage having fever and the percentage of deaths of the cases of fever.

From this tabular statement, which may be seen at a glance, but which is worthy of careful study, and which the committee have been able to make only after most extensive inquiries, continued for some months and involving a correspondence with about a hundred persons, it will be seen that the percentage of the number of cases of sickness in the east building is greater than that of those in the west; the percentage of fever, however, was greater in the west building, and the percentage of mortality much greater there. By referring to the diagram of the grounds, it will be seen that the west building was more exposed to fæcal effluvia, by the closer proximity of one of the privies, and by the hall being directly connected with it by a covered passage; and the testimony of the pupils and their friends shows rather more complaint of the odors in the west building than in the east. On the other hand, the east building was much nearer the site of the old barn and the offensive pool near the opening of the kitchen drain; and the privy on the east side of the chapel, though not communicating directly with the hall, yet indirectly, through the corridor, was represented as being, a part of the time, in a peculiarly bad state. This is the one which was cleaned out one night, producing the odor said to be so intense. The classes reciting in the "Cabinet," a room on the first floor of the chapel building, near the privy, are reported as being often much annoyed by the odor, especially when the windows were open.

Rooming in EAST BUILDING.	No. of Occupants.	No. of Sick.	No. sick with Fever.	No. of Deaths.	Deaths in Buildings.	Deaths out of Buildings.	Per cent. of Sickness.	Per cent. of Fever.	Per cent. of Deaths by Fever.
Second Floor - - - -	20	17	12	1	1		85.00	60.00	8.33
Third Floor - - - -	21	21	16	4		4	100.00	76.19	25.00
Total - - - - - -	41	38	28	5	1	4	92.68	68.29	17.85
WEST BUILDING.									
First Floor - - - -	10	9	9	4	1	3	90.00	90.00	44.44
Second Floor - - - -	11	10	7	1	1		90.00	63.63	14.28
Third Floor - - - -	12	9	7	3		3	75.00	58.33	42.85
Total - - - - - -	33	28	23	8	2	6	84.84	69.66	34.78
Total of both Buildings	74	66	51	13	3	10	89.18	68.97	25.49

But, as before stated, the whole premises seemed involved in an atmosphere impregnated with morbid materials and influences. Indeed, a fact which has not yet been alluded to, but which must be stated, in order to give a complete view of the case, seemed to indicate that the morbid influence was not entirely confined to the grounds of Maplewood. In a well-appointed dwelling, directly west of the premises, on the opposite side of the public street, two cases of typhoid fever occurred, and several other members of the family suffered from other forms of ill health, accompanied by decided derangement of the stomach and bowels; and one of the members of a family in an adjoining house was reported to have suffered from some similar form of disease. These houses were the nearest of any to the buildings of Maplewoood. In the other direction there were no dwellings for a considerable distance. Besides, the winds during July tended to carry effluvia westward. No record of winds was kept at Pittsfield, so far as the committee could ascertain; but in one of the communications from the physicians, it was stated as the impression of the writer that easterly winds prevailed during this period; and from a record kept at Williams' College, some twenty miles north, we find that: "In July the wind was east, or northeast, on the 2d, 7th, 10th, 14th, 16th, 17th, 18th, and 25th; but from the 14th to the 18th there was scarcely any wind. The succeeding week was smoky."

Absence of winds was, doubtless, the worst condition for the inmates of Maplewood. Strong winds would have tended to carry away and dissipate the vitiated atmosphere.

As to the amount of influence which the different degrees of crowding exerted in predisposing to attack, the facts are not sufficiently numerous to determine. The following, however, may be taken for what they are worth.

In the west building three lady teachers roomed—one on each floor. On the first and second floors they roomed alone and remained well. The one on the third floor roomed with a pupil, her sister, and both died after returning to their home. The southeast corner room of the west building—first floor—was occupied by three pupils. One died, and both the others had the fever severely. In the east building three teachers roomed, all in separate apartments. Of the two who were on the second floor, one had very severe typhoid fever and the other was not sick. The one on the third floor escaped the fever. Most of the rooms in both buildings were occupied, each by two pupils; and generally there was little difference in the crowding or the ventilation.

The circular sent to the physicians of Pittsfield, a copy of which was given in the early part of the report, was responded to by seven—replies not having been received from two or three. Six of the seven very nearly coincide in their views as to the nature and cause of the disease. They regard it as a continued fever of a somewhat peculiar variety, but of a typhoid type; and express the opinion that the chief causes were local in their character, mentioning, as the most efficient, the condition of the privies and the drains, as already described, and the removal of the old barn and pig-sty, thereby exposing to the extreme heat a soil abounding in organic matter, much of which had before been covered. Deficient ventilation, deficient sunlight (by one), and rumored uncleanliness and want of ventilation of the cellars were mentioned by two, as probable accessory causes. The propagation of the disease by the earlier cases, occurring in an atmosphere containing so much decomposing material, was also spoken of by two, as aiding in accounting for its great amount. Some of these letters contain specifications in regard to the hygienic conditions of the place, and refer to various items of testimony as to odors, &c.; all of which, taken with many other statements, has had its weight in determining our opinions respecting the cause of the disease.

One of the replies takes a somewhat different view from the rest as to certain features of the disease which occurred at Maplewood, and as to the more efficient causes producing it. Although this communication stands alone in some of its positions, yet the high source from which it emanates, and the plausible views which it presents, give it a right to careful and respectful attention. From its taking positions not quite in harmony with the rest, or with the conclusions to which the committee have arrived, they feel called upon to present and consider its statements more at length.

The writer expresses the opinion that the disease at Maplewood was largely, if not chiefly, due, in its origin, to a general wide-spread malarial influence engendered by the heat and drought of the season, lowering the streams and ponds, and exposing surfaces to the sun usually covered by water; and he dwells with much emphasis upon the fact that about the time of the commencement of the disease at the Institute, there were various other attacks in the community of a severe character, febrile and intestinal, some cases of cholera morbus proving speedily fatal; and it is also stated that many of the cases, not only in Pittsfield, but in neighboring towns, furnished evidence of a malarial character by yielding readily (and as it was thought they otherwise would not have done) to free doses of mercury and other cathartics, followed *early* by large anti-malarial doses of quinia. From these and other considerations he concludes that the disease at Maplewood was "typho-malarial fever," and the result of a combination of causes rather than of any foul conditions of the surroundings of the institution.

That a general influence arising from the causes referred to actually existed, the committee have no doubt, but as totally irreconcilable with the conclusion that the disease at Maplewood was caused by such general influence is the fact, that in Pittsfield and its vicinity, outside of the institution, typhoid fever did not prevail, or any disease having the specific characteristics of the terrible scourge occurring there. The testimony on this point already given is conclusive. The exemption of the community cannot have been due to any particular treatment, as they had every variety, from heroic to infinitesimal doses: certainly it could not have been due to large doses of quinia, as but a small proportion of the people or of those attacked with any form of disease took such doses. Nearer the lowered streams and dried marshes than Maplewood, were several large manufacturing establishments, with boarding houses for operatives, where the crowding must have been at least as great, and other personal conditions certainly no better than at the Institute; but in none of these did such a disease prevail. It is presumed their local surroundings were different. These considerations were not ignored by the author of the letter under consideration, for he says: "of the existence of local causes at Maplewood no one can doubt." He, however, adds:—

"There are very few public or private dwellings in and around which the hygienic conditions are perfect, and in such a season any such cause is intensified to its maximum; but that there was any *extraordinary* local cause, in this instance, I have never been able to satisfy myself. These girls, many of them feeble and nervous, all of them worn down by excessive labor in preparation for the anniversary exercises, these labors constantly increasing in severity as the end of the term approached; appetite and sleep failing them, and panic-stricken as they were at the occurrence of so much sickness, and at the deaths, were certainly fit subjects for fever-poison to operate upon in its worst forms.

"The rooms are very small, all opening into a common, narrow hall, with no opportunity for ventilation, except through the one window of the room and the door into the hall, and the latter having no direct ventilation. With the extreme heat and remarkable absence of winds at the time, it was *impossible* to secure anything like thorough ventilation, and to avoid the constant impregnation of the air with the breaths and exhalations of the fever patients, and especially those from the abundant and very offensive alvine discharges. In this air these girls lived, day and night, and my opinion is, that a large majority of the cases occurring after the close of the school were the result of *contagion*, or *infection*, from the first cases, rather than from any extraordinary cause of a different nature."

This brings clearly into view the question of contagion, which must be judged of in the light of the facts and the citations of professional opinions already given in a former part of the report, and by the peculiar circumstances of the case in hand.

The first attacks occurred during the last days of July, and the deaths in the buildings, from the 2d to the 10th of August. There was, then, time for the communication of the poison from these to the rest.

The labor of preparing for the approaching anniversary exercises, though undoubtedly exhausting, was only a repetition of that of previous years, when the ordinary health prevailed, and of itself cannot be considered responsible for the production of such a prevailing and specific disease.

The statements respecting want of ventilation, excessive labor, &c., though somewhat stronger than the committee, from their information, would have felt justified in making, are yet, it is to be feared, too near the truth; and if ventilation was as deficient as represented, it must have contributed fearfully to the retention and concentration of any poison, whether arising from the bodies of patients or generated in other sources.

Especially would this circumstance have given concentration to a poison originating in the privies and conveyed to the narrow halls and the dormitories, through the covered corridors connecting these places, as well as to that received through the windows from the outer air.

The servant girl, the first patient who died of fever, spent the first few days of her sickness in a room on the ground floor of the gymnasium, and was then removed to the detached building marked "Cottage" in the diagram. Her evacuations were thrown into the privy east of the chapel. One pupil who died, and the teacher who recovered, were sick in the east building, and their excreta were deposited in the same place.

The other two pupils who sickened and died in the Institute, were in the west building, and their discharges were disposed of in the privy of the west building. None of the discharges, except in the case of the pupil who died in the east building, were in any way disinfected. In each case they were removed from the room soon after being evacuated, except when this occurred late at night, when, in some cases, they were kept covered in the room until morning.

As the inmates were all more or less within the possible influence of these excreta, all resorting to one or the other of the privies, there was opportunity for receiving the contagion from this source, if it was capable of conveying it.

All within the two buildings were likewise within the possible influence of exhalations from the breath and the surface of the sick. So much can be said for contagion as a cause, in the later cases.

But it is not claimed that the early cases were produced by contagion; and as all were in a similar state, subjected to the same conditions and breathing the same tainted atmosphere with the first, why might they not have been affected by the further persistence of the same cause? Is it not more likely that they were? In several of the cases cited from the authorities, the attacks of large numbers were so simultaneous as to exclude the possibility of contagion from one to another; and in other cases, as in Richmond Terrace, other circumstances forbid the belief in the agency of contagion. Does not the case at Maplewood strikingly resemble those cited, where contagion could not be considered as playing a prominent part? If the family on the opposite side of the street were affected by the influences at Maplewood, was that more likely to be from emanations from the persons, or from a poison abundantly produced on the grounds? Two patients from Maplewood were sick with fever in a house where there were several persons of susceptible ages, and though no special precautions were taken, the disease was not communicated. Two sisters, day-scholars at Maplewood, took the disease and were ill at the same time, in the same house, with other members of the family of a susceptible age; but no others took the disease. Of nearly fifty who took the disease at Maplewood, and suffered from it long and severely in the families of their homes, the disease could not, in a single instance, be regarded as having communicated its poison to others. Not a case of similar sickness occurred in the neighborhood, excepting in a single instance. One young girl, a sister of a Maplewood pupil who had the fever, suffered, not long after, from typhoid fever; but one such instance occurring among the hundreds that must have been exposed, must be regarded as only casual. Two mothers of young ladies who died at the Institute, one from Rochester, N. Y., the other from Vermont, came to Maplewood to be with their daughters, each remaining about one week. Both of these ladies had the fever severely soon after they returned home.

All these facts certainly point towards the local origin of the disease, independent of contagion. Still the possibility of contagion is not denied. Especially is it not denied that the fæcal evacuations from the fever patients, mingled with other large fæcal accumulations, may have contributed to the production of a poison more virulent than that existing before; but all experience shows that, admitting a contagious poison, a polluted atmosphere, the presence of decomposing matter is necessary to give that poison wide-spread effects.

It has been urged as an argument against a local cause, but not from any professional source, that a similar condition of privies and drains had existed at Maplewood for years, while no severe sickness had occurred. Although these conditions may have been similar, they were not identical. Time had certainly allowed of further accumulations, and had effected changes. It is the "last straw that breaks the camel's back;" and besides, there had not been, before, the intense heat and drought of the past summer. This argument, as well as many others, suggested by a laudable sympathy for the Principal of the Institution, may and does diminish the weight of his responsibility, but does not impair the scientific conclusions as to the cause of the disease. The argument in favor of a special local cause seems conclusive, unless the existence of the local impurities described be disproved. This the committee deem impossible; for no amount of negative testimony can overbalance the positive evidence of such a cloud of witnesses as have testified in the case.

Though fully admitting that few public or private dwellings are, in their internal arrangements or outward surroundings, in a perfect hygienic condition (and hence so many cases of comparatively isolated zymotic diseases everywhere), still, the committee cannot but think that the condition of the drains and their openings, as described, and particularly of the two privies (used by a family of more than 110 persons), consisting of superficial vaults without any kind of drains, and filled to overflowing in extremely hot and dry weather, and withal so near, and so intimately connected with the recitation and study-rooms, and the badly ventilated dormitories of so many girls, is something *extraordinary*, and, certainly, *local*.

In the communication above mentioned, much stress is laid upon the general causes of the disease having pervaded the whole region; that is, the heat and drought, which reduced ponds and streams, and generated a general malarious influence, producing at Maplewood a typho-malarial fever.

Without in the least denying such an influence, it is sufficient for the due appreciation of its effects in producing the sickness at Maplewood, to re-state the fact (and repetitions on so important a point seem justifiable) that, though for a few days it produced other forms of severe disease, it did not cause a prevalence of typhoid fever in other localities in the neighborhood. The testimony is uniform, that typhoid fever prevailed in Pittsfield, outside of the influence of the Institute, to a less extent—certainly not to a greater extent—than usual at the same season of the year. We must, therefore, conclude, that, though a general influence may have contributed to the production of disease at Maplewood, as elsewhere, yet, that that general influence was modified in its effects by local causes, and those not of an ordinary character, to have produced such results.

Whatever theoretical view of the subject be taken, the conclusion is the same—that the local sanitary conditions of the place must be, mainly, held responsible for this painful calamity.

In prosecuting this investigation, the committee have had but one object, and that was, to ascertain the exact truth, both as regards the character and amount of disease which occurred, and the causes which produced it. To this end sufficient time has been taken to exhaust every source of information, and also to allow of the abatement of the force of first impressions and the subsidence of feelings necessarily excited by the reception of so many communications abounding in the strong expressions of wounded paternal affection, or in the agonized outbursts from the lacerated hearts of mothers who, like Rachel, were mourning for their children, and would not be comforted.

They have endeavored to give due heed and the proper weight to every fact and suggestion bearing upon the subject; and have striven to pursue, impartially, every plausible train of thought, to whatever conclusion it tended. They have endeavored, in this report, to meet frankly every suggestion opposed to their opinions, and to deal fairly with every view.

In performing their task, the committee have been engaged with hygienic conditions and events. With persons, and motives, and responsibilities, they have nothing to do.

It may be said, however, that, of course, the subject was not understood and regarded by those responsible for the condition of the place, before the sad results had occurred, as the committee now understand and regard it, otherwise, upon every principle of self-interest and the most ordinary sentiments of humanity, precautionary measures would have been taken.

It is alleged, and, without doubt, truthfully, that various improvements which have since been made on the premises, were in contemplation for some time previous to the sickness, and were delayed chiefly in consequence of an expected change in the proprietorship—that previous experience of a similar condition of things had suggested no danger—that even after the disease commenced, medical advisors did not at first recognize any local causes—and that, above all, no such season as the last had before occurred; and further, that the contemplated changes could not well have been effected when the school was in session. All this and more could undoubtedly be truly said in defending whoever was responsible for the condition of the premises from the suspicion of intentional wrong, or reprehensible indifference and neglect; but this is not our task. These considerations did not alter results; and in view of such results, it cannot be too much regretted that the contemplated improvements were so long delayed.

To whatever extent the ignorance of sanitary laws may shield the violator from moral responsibility, it will not abate the physical penalty of such violation. This will fall with the same force upon the unconscious, the ignorant, the helpless and the morally innocent, as upon the intelligent, the powerful and the wicked. It is too much the custom to attribute all cases of sickness and death, however palpably the result of violated laws, to a special mysterious Providence, or to the decrees of fate—forgetting that without a miracle all natural events are the results of natural causes; and that over such causes men have often control. Though there is a Providence over all, it should be remembered that, in the world of nature, that Providence operates in accordance with, and by the means of established laws. Though the hairs of our head are all numbered, and not a sparrow falls to the ground without our Father's notice, yet the number of our hairs is determined by the fixed principles of our organization, and every sparrow which falls to the ground does so in accordance with laws established at the dawn of creation.

To prevent the poison of typhoid fever, when taken into the system, from producing its legitimate effects, except by natural agencies, would require as positive a miracle as to restore a severed head, or arrest the course of the heavenly bodies in their spheres. Instead of closing our eyes and soothing our minds by casting the responsibility of a great calamity upon Providence, we should look to the physical conditions producing it, and see whether those conditions are removable; or whether the consequences, by human foresight and agency, could have been prevented. Until this is done more generally and more effectually than heretofore, such calamities will continue to occur.

The case of Maplewood is not the first in the history of similar institutions in this country, and it is feared it may not be the last. The committee have information of others, though they have not authentic knowledge of sufficient details to make them available in a report intended to be full and exact in its facts and rigid in its deductions. The chief object of this report is, by an exhibition of the truth, to prevent similar calamities in the future. In this view and with this object, all personal and local considerations sink into insignificance, and must not be allowed, as they have not been, to obscure the truth.

Knowing the great interest which this matter had excited, and anticipating the attention which might be given to the facts and principles developed, and their possible influence upon the preservation of health and life in other cases, the great responsibility of this undertaking has been appreciated.

The importance of the subject has been deemed sufficient to justify so extended a report; and the conclusions to which the committee have come, together with the data upon which they are based, are submitted to the judgment of an enlightened profession and a discerning public.

The lesson for all, for the future, is too obvious to need further pointing out; and the committee cannot doubt that they would hazard little in predicting that the wisdom obtained by this sad experience will be of value in the future management of this institution, and secure precautions which will forever prevent the recurrence of such a calamity.

If the lesson shall be heeded by other institutions, and, to any extent, by the people at large, those who have been engaged in thus presenting it will be more than compensated for their labor.

Signed, A. B. PALMER, M.D.
C. L. FORD, M.D.
PLINY EARLE, M.D.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, SEPTEMBER 28, 1865.

THE CHOLERA.—The current year will be long remembered for the number of destructive epidemics which have prevailed in it. Its beginning was marked by that outbreak of typhus or cerebro-spinal meningitis, which, ravaging Russia, threatened at one time to extend its devastating course over Europe, and startled both the old world and new for a while from their fancied security and neglect of sanitary laws. Fortunately, it ceased as suddenly as it began, and in the face of other dangers before us is already almost forgotten. Later an allied affection, also a form of typhus, broke out among the horned cattle of Northern Germany, and, crossing the sea, is still at its destructive work among the herds of England. Thousands of beasts have been lost, and the axe is the only remedy found to stay its course. At the same time a fatal disease resembling scarlatina has been carrying off the swine in Ireland, so that Great Britain, always scantily supplied with meat, seems in danger of a serious famine.

But more terrible than these, the cholera, awakened from its ten years' sleep in Egypt and filled with the malignancy engendered by so long a repose in that land of filth and pestilence, has started on a course which threatens to be as devastating and widespread as any in its dreadful history. In the early summer we heard of its ravages among the multitudes of pilgrims at Mecca, where the deaths were counted by many thousands, but so often has it laid those regions waste without extending farther, and so favorable are the conditions for its existence in that annual assemblage of Mussulmen, that no fears of its undertaking one of its grand marches were at first entertained. Soon, however, the news came that it had reached Alexandria and Cairo, in which cities it carried off more than 9000 souls between June 12th and July 23d. Gradually dying out there, it has at last leaped the Mediterranean, and invaded the European cities along its whole northern shore. The accounts which have reached us of its frightful doings at Constantinople, and the description by eye-witnesses of the panic which exists there, rival those in the pages of Boccaccio and Manzoni.

The latest European mail brings the following intelligence of its progress :—

"The United States Consul at Constantinople, in a letter to the State Department, dated August 14th, says :—'It is estimated that the victims of cholera already number 20,000, the number of deaths in a single day having reached 1000. It is said that probably 200,000 terror-stricken inhabitants have left the city.'

"The Consul at Barcelona, under date of August 22, says :—'The cholera is fully declared in this city. The deaths from this disease have averaged up to this date about 12 per day, or the total number of deaths from cholera in Barcelona up to August 21 is 115. There have also been many deaths from other diseases, and although it is stated that over 50,000 people have left Barcelona during the last 15 days, leaving at present, perhaps, 130,000 persons in the city, on the 21st inst. there were 21 deaths.'

"The Consul at Leghorn, under date of August 25th :—'The cholera, which has prevailed in an alarming degree for the past three months in Egypt, Turkey, and some of the eastern portions of Italy, has not yet reached this place. It has not broken out on the western coast of Italy, except at Malta. Among the Mussulmen population nightly processions perambulate the streets, chanting hymns and prayers for the averting of the scourge. Among the Greek population the fright has almost resulted in famine, the bakers refusing to make bread, the butchers to kill meat and grocers to sell provisions. The panic among the masses of the people is out of all proportion to the danger. In Ancona and other places on the Adriatic where it prevails it is very fatal, and of those attacked more than half die.'"

The *Lancet* of Sept. 8th, contains the following additional particulars :—The first case occurred at Gibraltar on the 29th of July, and it still prevails there, both in the garrison and among the civil population. At Marseilles there were 29 deaths on the 1st inst., 35 on the 2d and 34 on the 3d. In Manduria, the last town in Italy invaded, there were 80 cases on the 27th of August and 31 deaths. At Ancona, on the 30th, there were 73 new cases. At San Severo, on the 28th, there were 133 new cases and 62 deaths ; and from August 30th to September 1st, 134 new cases and 62 deaths. A few cases were also reported at Bologna and at a small town within five miles of Florence. At Malta, 1599 cases had occurred and 957 deaths ; and at Gozo 241 attacks and 176 deaths. Between August the 5th and 18th the number of deaths in Smyrna was 319 ; on the 19th the mortality was on the increase. The latest news from Jaffa reports 50 to 60 deaths daily in a population of only 7000. In Constantinople the disease appeared to be diminishing, the number of deaths from August 9th to the 23d being 3081.

It will be seen, therefore, that a very fatal form of cholera is at present prevalent in Southern Europe, working its way slowly north through Italy and westward into France. Whether it will extend over the continent and cross the ocean to us, as in former epidemics, no man can foresay, but we should be culpably blind to its past teachings if we did not take every precaution against its coming and use every means to limit its ravages as immediately as if it had already reached Canada or New Orleans, its former ways of approach.

In this connection we publish the official correspondence which has already appeared in the newspapers, and which was prompted by a despatch to our government at Washington from the minister resident at Constantinople, recommending rigid quarantine regulations.

EXECUTIVE DEPARTMENT, BOSTON, September 12, 1865.

To the People of Massachusetts.

The attention of the State Government having been called by that of the United States to certain important considerations affecting the public health, the Governor, after referring the correspondence to the Surgeon-General of Massachusetts, directs the same to be made public, together with the able and instructive report of the Surgeon-General, for the information of the people of the Commonwealth. The Governor believes that no cause for anxiety exists in regard to the disease alluded to ; and he trusts that, while all undue apprehensions may be quieted, the people will, by pursuing the advice contained in the Surgeon-General's Report, guard themselves against the contingencies of the future. JOHN A. ANDREW.

By His Excellency the Governor.

OLIVER WARNER, *Secretary of the Commonwealth.*

OFFICE OF SURGEON-GENERAL, BOSTON, September 11, 1865.

SIR,—I have the honor to acknowledge the receipt of the communication of the Honorable the Secretary of State, U. S., with accompanying papers from the Acting Surgeon-General, U. S. A., transmitted to this department.

In reply, I beg respectfully to inform Your Excellency that a copy of the above has been forwarded to His Honor the Mayor of the city of Boston, and to their honors, the chief magistrates of the other cities in this State.

By the General Statutes of this Commonwealth, quarantine regulations, and other matters appertaining to the public health, are solely under the direction and control of the various municipalities of the State.

Waiving the question of the contagiousness of cholera, I respectfully remind Your Excellency that the city of Boston, through its able City Physician and eminent Board of Consultation, have given the subject of an anticipated visitation of an epidemic from foreign sources that attention which its importance demands; and I have the honor, herewith, to forward you their report.

It is believed to be the opinion of our ablest medical men, that there is no ground for immediate apprehension, as the existence of cholera in England is not as yet known to be officially announced. Should, however, this disease visit our country this fall, the hygienic influences of the season would greatly modify its character, and render it comparatively harmless.

I, however, respectfully suggest that it would be eminently proper for Your Excellency, as Chief Magistrate of the State, by proclamation or otherwise, to call the attention of the various authorities of the Commonwealth to the great importance of rigid sanitary preparation, in view of the anticipation of the approach of any malignant epidemic.

The officers of the various State institutions should cautiously inspect their condition in regard to ventilation, sewerage, and drainage —whether they are overcrowded, or are wanting in any of the appliances of health; and, by timely and judicious removals or classification, be in such hygienic preparation as will effectually control or modify any disease.

Those in charge of the localities of large manufactories where there is much refuse animal matter, and of the places where large numbers of cattle are brought together for sale or slaughter, the superintendents of factories located on rivers or small streams, should realize the necessity of rigid sanitary inspection. Local boards of health should assiduously regard the condition of all stable and privy vaults, always remembering that acute disease in a time of general epidemic is apt to assume a malignancy of form as fatal as that of recognized pestilences.

The condition of the localities where large numbers of operatives of foreign extraction are congregated, with all the appliances for the propagation and spread of disease, should also be subjects for the grave consideration of health committees; and the good people of the Commonwealth generally should be called upon to observe such rules in regard to diet, clothing, and personal health, as will enable them to meet any and all disease.

Cleanliness is next to godliness, and when to this virtue there is superadded temperance, and the confidence which springs from a stout and loyal heart, with a good conscience, the people of this Commonweath may hopefully await any visitation which God in his providence may see fit to send. I am very respectfully,

Your Excellency's obedient servant,

Wm. J. Dale, *Surgeon-General.*

To His Excellency John A. Andrew.

As the public representative of our profession in New England, we would inquire what steps have been taken in this and other cities by the municipal authorities in anticipation of such a visitation? We do not wish to create a false alarm or excite unnecessary fears, but we are certain that the sanitary condition of this city is not by any means what it should be in view of such a contingency. The horrible and pestilential atmosphere, to which we called attention a few weeks ago, is still supplied to the inhabitants of the west end of the city, instead of respirable air, on every day that a south wind blows, and open-mouthed drains continue to pour out the sewage of acres of dwelling houses into the shallow basin west of Tremont Street. Odors which cause one to hold his breath and pause, as if another step would precipitate him into a privy, come suddenly upon one while passing through streets in nearly every quarter of the city, and the recent extensive outbreak of diarrhœa in Charles Street is painfully suggestive of the result of such an attack in the presence of a choleraic atmosphere. As to the state of the cellars in the unraised portions of the populous territory bordering upon the land of the Water Power Company, we can only say that it is beyond expression dangerous and outrageous. If such evils exist in so close proximity to the best quarters of the city, how must it be in those localities so notorious for filth and poverty? We doubt not that an investigation as thorough as that made during the cholera epidemic of 1849 would reveal a sanitary condition worse even than that described in the report of the Board of Health at that time, and the arbitrary measures which were then used are imperatively called for now, immediately.

We are pleased to learn that the subject of the cholera and the general sanitary condition of the city will be specially considered at the public meeting of the Association for Social Science to be held at the State House on the 4th of October, and we trust that such measures may be taken at that time as the public safety demands.

Discussions upon Aphasia.—The love which our French medical academician friends have for learned and eloquent and deep discussions of what we may call impossible questions, has been well exemplified in the late long debates on aphasia, in the Academy of Medicine. Bouillaud, Trousseau, Parchappe, Baillarger, Cérise, Bonnafont, and other speakers, have recorded their eloquence on this topic before an admiring and applauding audience. But what is the result? To us who sit outside, and hear not the charming facility of speech, and correctness and closeness in arguing, of those who so often are there heard, it almost seems as if the *jeu ne valoit pas la chandelle*. The very disease aphasia is to most of us a new one; and we venture to say that even yet no one can give a satisfactory definition of Trousseau's new term. The whole discussion shows that it is impossible to admit the existence of aphasia, pure and simple, apart from other disturbance of the intelligence or motion; and that it is much more reasonable to regard the loss, partial or complete, of speech, as a phenomenon coincident with cerebral hæmorrhage, softening of the brain, general paralysis, different forms of insanity, wounds of the encephalon, and all the various diseases of which the brain is the seat. Aphasia has been observed as a symptom of many diseases, but never as a morbid entity. This is what the clinical history of the disease showed. As regards its morbid anatomy, Bouillaud and Parchappe cited cases which, in their opinion, seemed to localize the power of speech in the anterior lobes of the brain; but this was only a very partial view of the case. M. Cérise touched upon the psychological side of the question, and put some questions very puzzling to those who would localize speech in one particular part of the brain. He pointed out the relation between the thoughts and the power of speech. Thought is the internal voice; speech, the external. But what know we of the seat of thought in the brain? And, if we cannot localize the internal voice, how can we pretend to localize its external expression?—*Med. and Surg. Reporter*, from *Brit. Med. Journal.*

Another Indictment of Oidium.—It is stated that in France cases have occurred in which inoculation with *Oidium Tuckeri*, the fungus which causes the vine disease, has proved fatal to human beings. Wounds accidentally made with the instrument used for cutting off the diseased vine-shoots, have presented, according to Dr. Collin (Medical Inspector of the Mineral Waters of St. Honoré, Nièore), marked evidence of poisoning. Messrs. Desmartes and Bouche, of Vittrany, have also concluded from their experiences that deleterious effects are produced by the oidium, but they seem rather disposed to establish a coincidence between the epidemic development of the oidium and a greater frequency of certain forms of inflammation of the mucous membranes.—*Am. Druggists' Circular.*

VITAL STATISTICS OF BOSTON.

For the Week ending Saturday, September 23d, 1865.

DEATHS.

	Males.	*Females.*	*Total.*
Deaths during the week - - - - - -	45	56	101
Ave. mortality of corresponding weeks for ten years, 1853—1863	47.8	45.3	93.1
Average corrected to increased population - - - -	00	00	101.62
Death of persons above 90 - - - - - - -			

Communications Received.—Surgical Cases at Boston City Hospital.—Errors in Diagnosis.—Third Annual Meeting of the Ophthalmological Society at Heidelberg.—Resection of the Humerus.—Imperforate Hymen.—Cases of Ovariotomy.—Spotted Fever.

Books Received.—Lectures on the Diseases of the Stomach. By William Brinton, M.D., F.R.S. Philadelphia: Lea & Blanchard.—The Use of the Laryngoscope in Diseases of the Throat. By Morell Mackenzie, M.D. Lond., M.R.C.P. Philadelphia: Lindsay & Blakiston.—Physician's Visiting List, 1866. Philadelphia: Lindsay & Blakiston.—Lectures on Inflammation. First Course. By John H. Packard, M.D. Philadelphia: J. B. Lippincott & Co.

Married,—In this city, 21st inst., Dr. James G. Porteous, late of the 46th N. Y. Vols., to Miss Sarah Frances Wilbur, of Boston; 12th inst., Charles Hosford, M.D., of Thompson, Conn., to Miss Helen E. Gay, of Boston.—In Hollis, N. H., 20th inst., Dr. C. H. Bill, of Nashville, Tenn., formerly Surgeon 15th U. S. Infantry, to Miss Mary J. Worcester, of Hollis.—At Dalton, N. H., 18th inst., Dr. Wm. H. M. Howard, of West Fairlee, Vt., to Miss Catharine A. Sumner, of Dalton.

Died,—In Cambridge, Sept. 24th, suddenly, of heart disease, Dr. Charles F. Foster, aged 47 years.

Deaths in Boston for the week ending Saturday noon, September 23d, 101. Males, 45—Females 56. Accident, 1—anæmia, 1—apoplexy, 1—disease of the bowels, 1—congestion of the brain, 4—disease of the brain, 3—bronchitis, 2—burns, 1—cancer, 1—cholera infantum, 13—consumption, 15—convulsions, 1—croup, 2—cyanosis, 1—cystitis, 1—diarrhœa, 2—diphtheria, 3—dropsy, 1—dropsy of the brain, 3—dysentery, 8—bilious fever, 1—typhoid fever, 4—typhus fever, 1—hæmatemesis, 1—infantile disease, 1—congestion of the lungs, 2—inflammation of the lungs, 3—marasmus, 3—old age, 1—pemphigus, 1—peritonitis, 1—premature birth, 5—puerperal disease, 1—syphilis, 2—teething, 2—unknown, 4—ulcers, 1—whooping cough, 2.

Under 5 years of age, 48—between 5 and 20 years, 10—between 20 and 40 years, 20—between 40 and 60 years, 13—above 60 years, 10. Born in the United States, 75—Ireland, 20—other places, 6.